

**Amendments to the Claims** are reflected in the listing of claims which begins on page 7 of this Amendment.

### **REMARKS**

In the Office Action dated January 5, 2004, the Examiner states that Claims 1-12 are pending and Claims 1-12 are rejected. By the present Amendment, Applicant amends the claims.

Support for these claim amendments is found throughout the specification and claims 1-12 as filed in this application.

#### **Response to § 112 Rejection**

In response to the Examiner's rejection of pending Claims 1-12 as vague and indefinite under § 112, second paragraph, Applicant cancels pending Claims 1-12 and submits new Claims 13-33.

In response to the Examiner's rejection set forth in the 3<sup>rd</sup> paragraph of the § 112 rejection, Applicant overcomes said rejection by separating and clearly defining each step of the present invention, as set forth for instance in claim 13.

In response to the Examiner's rejection set forth in the 4<sup>th</sup> paragraph of the § 112 rejection, Applicant overcomes said rejection by replacing the term "process" with "a process" in claim 13.

In response to the Examiner's rejection set forth in the 5<sup>th</sup> paragraph of the § 112 rejection, Applicant overcomes said rejection by inserting the term "comprising" in claim 13.

In response to the Examiner's rejection set forth in the 6<sup>th</sup> paragraph of the § 112 rejection, Applicant overcomes said rejection by replacing the term "and being of a biological origin" with "and said material being of a biological origin" in claim 13, in accordance with the Examiner's suggestion. Applicant also overcomes the rejection set forth in this paragraph by not including the phrase "in which process" in claim 13.

In response to the Examiner's rejection set forth in the 7<sup>th</sup> paragraph of the § 112 rejection, Applicant overcomes said rejection by amending the term "the biological material" to refer only to "the material". "The material" has an antecedent basis in the term "a material" occurring in the preamble of claim 13.

In response to the Examiner's rejection set forth in the 8<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by clarifying that the claimed process includes a freezing step and a mechanically treating step. Applicant points out that in claim 13 the freezing step occurs before the mechanically treating step, and that in Claim 33 the mechanically treating step occurs prior to the freezing step. Applicant also points out the term "mechanically treating" is supported for instance on page 7, lines 8-10 of the application as published in WO 00/23545, wherein material may be treated mechanically by "cutting, milling, scraping, pounding or any other way".

In response to the Examiner's rejection set forth in the 9<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by clearly separating the thawing and freezing steps in the claimed process.

In response to the Examiner's rejection set forth in the 10<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by referring to "a" temperature of 0°C-60°C, not "the temperature", in claim 13.

In response to the Examiner's rejection set forth in the 11<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by amending the claims to refer to clear and separate steps relating to the denaturing temperature.

In response to the Examiner's rejection set forth in the 12<sup>th</sup> paragraph of the §112 rejection, the term "sad" does not occur in claims 13-33.

In response to the Examiner's rejection set forth in the 13<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by replacing the term "fat/lipids" with the term "at least one of the group consisting of fat and lipid" in claim 13.

In response to the Examiner's rejection set forth in the 14<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by referring to "a composition" in the separating step of claim 13.

In response to the Examiner's rejection set forth in the 15<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by referring to "a denaturing temperature" in the appropriate step in claim 13.

In response to the Examiner's rejection set forth in the 16<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by deleting the phrase "per se known manner" from the claims.

In response to the Examiner's rejection set forth in the 17<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by deleting the term "material is being processed" from the present claims.

In response to the Examiner's rejection of pending claims 2 and 3 set forth in the 18<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by replacing "freezing/thawing" with "freezing and thawing".

In response to the Examiner's rejection of pending claims 2 and 3 set forth in the 19<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by clarifying that the term "continuously" in claim 14 refers to a continuous freezing and thawing process, for instance where original or mechanically treated material passes through (for instance on a conveyor belt) different temperature zones (having high or low temperatures). In such continuous process, the material enters the zones and, after the lipids/oil/fats have been removed, grax remains. One benefit to a process performed continuously is that, as the material moves through various temperature zones, it is not necessary to freeze and heat a vessel holding the material, thus reducing the energy demand of the process. Similarly, the term "semi-continuously" in claim 15 refers to a process where material is subjected to successive freezing and thawing temperatures while stationary.

In response to the Examiner's rejection of pending claim 6 set forth in the 20<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by clarifying that the relevant step occurs in the separating step in the new Claim 18.

In response to the Examiner's rejection of pending claim 7 set forth in the 21<sup>st</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by first referring to "a grax" in new claims 19 and 23, not "the grax".

In response to the Examiner's rejection of pending claim 9 set forth in the 22<sup>nd</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by submitting that the conditions discussed in new Claim 24 may be performed in any of the steps of the entire process.

In response to the Examiner's rejection of pending claim 10 set forth in the 23<sup>rd</sup> paragraph of the §112 rejection, Applicant overcomes said rejection by amending the term "the raw material" to "the material". Applicant submits that the term "the material" has an antecedent basis in Claim 13.

In response to the Examiner's rejection of pending claim 11 set forth in the 24<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes said rejection in claims 25 and 27 by specifying that the cell disrupting compound (s) may occur prior to or subsequent to mechanically treating the material.

In response to the Examiner's rejection of pending claim 12 set forth in the 25<sup>th</sup> paragraph of the §112 rejection, Applicant overcomes the rejection in claim 29 by specifying that at least one anti-oxidant is added in at least one step of the process.

In view of the foregoing comments, Applicant submits that the claims 13-33 comply with the requirements of § 112, and requests that the Examiner withdraw the present rejection of the claims.

Response to §102(b) rejection

In the Action, the Examiner rejects claims 1-12 as anticipated by Jansson *et al.*, Norwegian Patent No. 1993 309, stating that Jansson *et al.* teach a process of separating and isolating from fish or marine material non-denatured oils, fats or lipids that will inherently produce non-denatured protein, and that the present processes also produce non-denatured protein.

Applicant respectfully submits that new claims 13-33 are not anticipated by the '309 patent, at least because the cited document does not disclose a process having a step for determining the denaturing temperature of the material at issue. In contrast, the present invention is directed to a process having, in part, a determining step prior to the thawing step comprising determining a denaturing temperature for the material.

Applicant points out to the Examiner that new claims 13-33 are directed to a process, not to a product of the process. The Examiner's stated concern relating to any '309 patent disclosure of a product, non-denatured protein, does not show inherent anticipation of the present process by the '309 patent therefore. Applicant further notes that the '309 patent does not inherently disclose a process step for determining the denaturing temperature of the material at issue.

The '309 patent does disclose a concern with the effects of freezing rather than heating material in its processes. See for instance pages 3-6 of the translation of the '309 patent provided with the pending Official Action, wherein the '309 patent discloses heating processes and the detrimental effects of high temperatures (or in the case of "cold processing", moderate to high temperatures) used during the traditional extraction of marine oils. See also for instance the first full paragraph of page 6 (after "THE INVENTION"), wherein the '309 patent states that the goal of its methods is to stabilize the product in part by keeping temperatures low during the entire process, and the paragraph(s) thereafter discussing the effects of freezing as well.

However, the '309 patent does not disclose, teach or suggest a process including determining the denaturing temperature of the material to be processed, and to limiting the thawing of the material during the process to a temperature below the denaturing temperature. Furthermore, the '309 patent does not disclose, teach or suggest how to determine such denaturing temperature.

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Reply to Office Action of January 5, 2004

Applicant notes that the author of the '309 patent also invented the present invention, and that the author of the present invention considers the present invention to be a significant improvement over the cited document.

In view of the foregoing response, Applicant submits that all of the outstanding objections and rejections have been overcome. Applicant respectfully requests timely issuance of a Notice of Allowance in this application.

May 5, 2004

Date

Respectfully submitted,



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